Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER Wildcat SINGLE ZONE [ ] MULTIPLE ZONE [ ]

7. UNIT AGREEMENT NAME: Dirty Devil Unit

8. FARM OR LEASE NAME: Unit Well

2. NAME OF OPERATOR: Mountain Fuel Supply Company

9. WELL NO.: 4

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 623' FSL, 815' FEL SE SE
At proposed prod. zone:

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 23 miles SE of Hanksville, Utah

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 505' — —

16. NO. OF ACRES IN LEASE: 2560

17. NO. OF ACRES ASSIGNED TO THIS WELL: —

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: — —

19. PROPOSED DEPTH: 5400'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5465'

22. APPROX. DATE WORK WILL START*: December 21, 1972

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
13-3/4	10-3/4	32.75	550	390
8-3/4	7	23	to be determined	

We would like to drill the subject well to an estimated depth of 5400', anticipated formation tops are as follows: Navajo at the surface, Kayenta at 210', Wingate at 420', Chinle at 710', Shinarump at 1035', Moenkopi at 1120', White Rim at 1470', Organ Rock at 1995', Cedar Mesa at 2085', Honaker Trail at 3055', Paradox at 3730', Pinkerton Trail at 4620', Molas at 4975' and Mississippian at 5125'.

Mud will be adequate to contain formation fluids and blow out preventers will be checked daily.

OK

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED B. H. Crafts TITLE Vice President, Gas Supply Operations DATE Dec. 8, 1972

(This space for Federal or State office use)

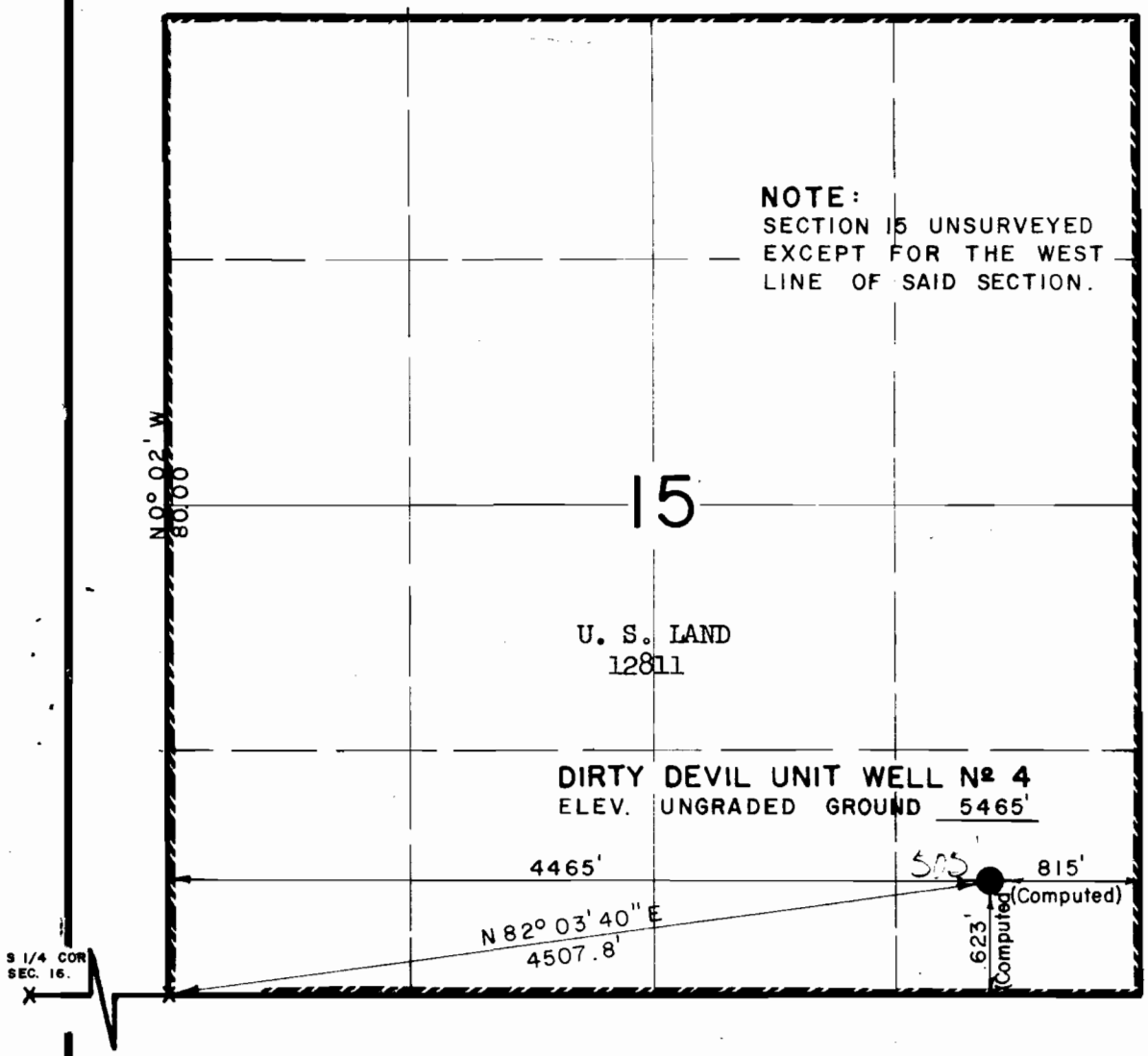
PERMIT NO. 43-055-30072 20303 APPROVAL DATE —

APPROVED BY — TITLE — DATE —

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

T30S, R14E, S.L.B.&M.



X = Brass Caps Found & Used.

PROJECT

MTN. FUEL SUPPLY

Well location, **DIRTY DEVIL UNIT Nº 4** located as shown in the SE 1/4 SE 1/4 Section 15, T30S, R14E, S.L.B. & M.; Wayne County, Utah.

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Leonard C. Lee

REGISTERED LAND ~~SURVEYOR~~
REGISTRATION Nº 3137
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P O. BOX Q — 110 EAST - FIRST SOUTH
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 26 October 1972
PARTY L.C.K., & R. R.	REFERENCES GLO Plat — Drawing No. M-10877
WEATHER Cool & Raining	FILE Mtn Fuel Supply Co.

DEVELOPMENT PLAN
FOR
U.S.G.S. APPROVAL
OF
SURFACE USE
MOUNTAIN FUEL DRILLING WELLS

Well Name - Dirty Devil Unit Well No. 4

Field or Area - Wildcat - Dirty Devil River Area

1. Existing roads. As shown on attached plat

2. Planned access roads. As shown on attached plat

3. Location of wells. As shown on plat - no other oil and gas well located within 3 - 4 miles in any direction

4. Lateral roads to well locations. As shown on attached plat

5. Location of tank batteries and flowlines. None in area

6. Location and types of water supply. As shown on attached plats - 1st source is water well to be drilled on drilling site - 2nd source is small spring with estimated flow of 5 gallons per minute - 3rd source is water well at Jeffery Well - 30 miles North.

7. Methods of handling waste disposal. Burn pit to remove the burnable portion, mud and mud debris to be dryed as much as possible and then burried on the drilling site.

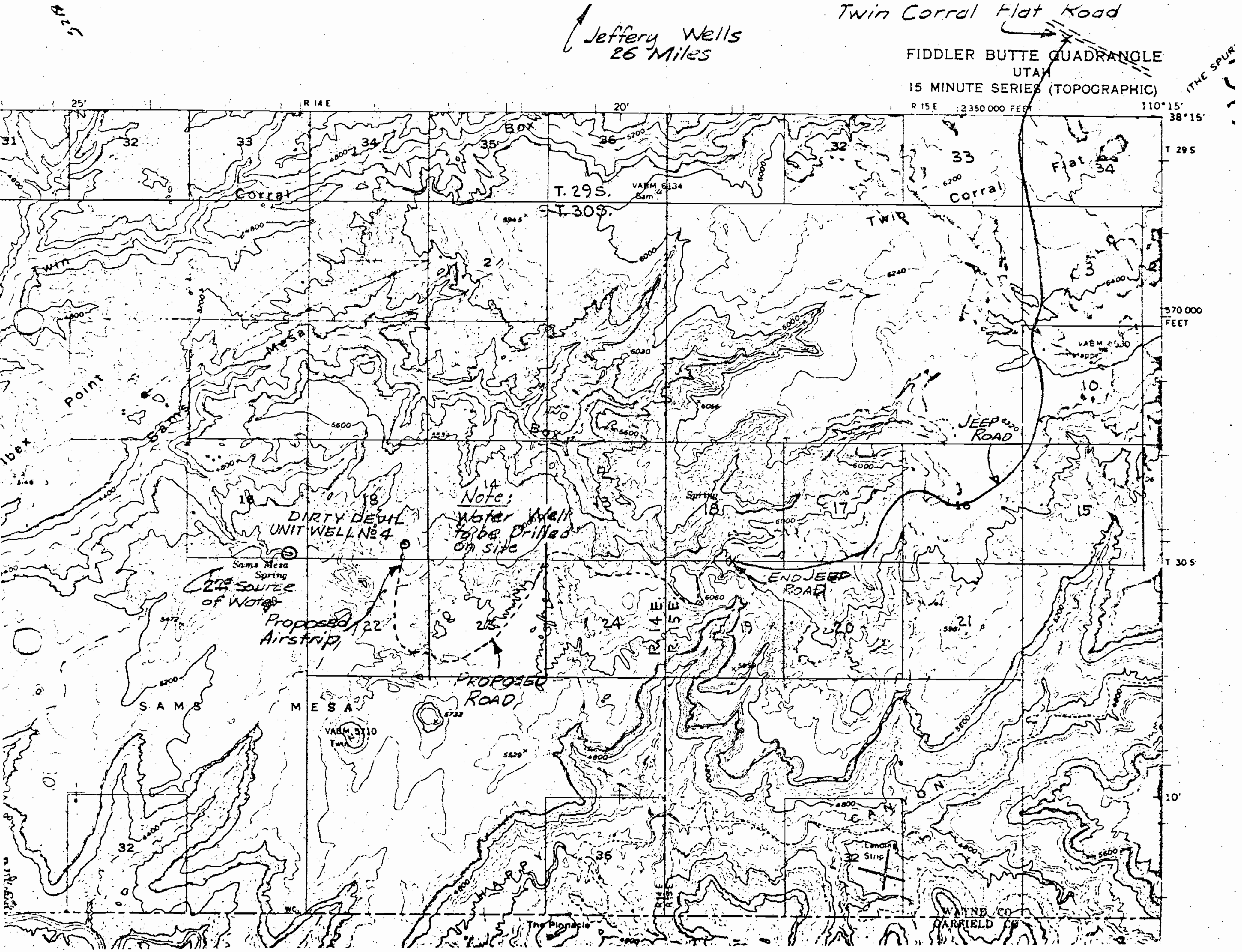
8. Location of camps. None within 3 - 4 miles - none needed for this location.

9. Location of airstrips. None existing - a small airstrip will be built on the proposed road - approximately 30' wide x 1500' long.

10. Location layout to include position of the rig, mud tanks, reserve pits, burn pits, pipe racks, etc. As shown on attached plats.

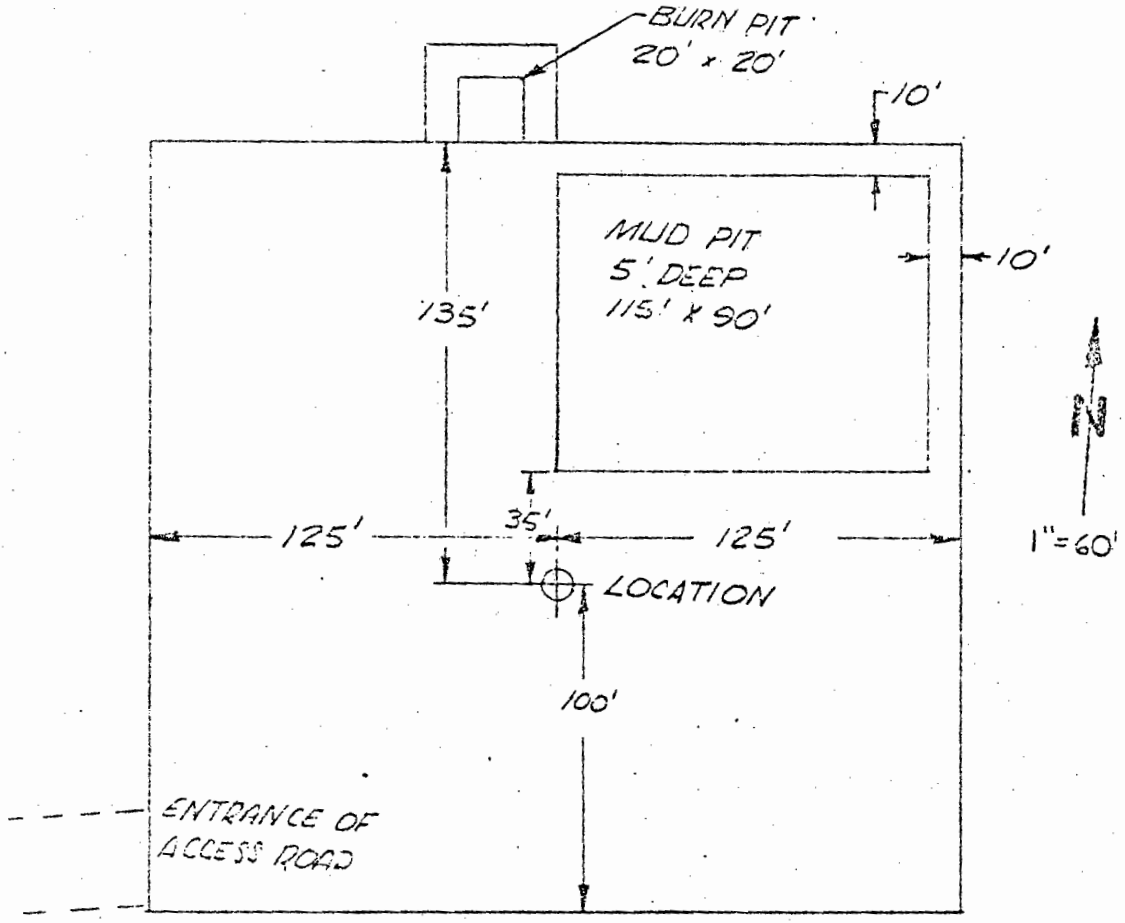
11. Plans for restoration of the surface. Surface area to be graded and leveled to do away with pits, etc.

12. Any other information which the Approving Official considers essential to his assessment of the impact on the environment. none



Jeffery Wells
26 Miles
Twin Corral Flat Road
FIDDLER BUTTE QUADRANGLE
UTAH
15 MINUTE SERIES (TOPOGRAPHIC)
(THE SPUR)
T. 29 S.
T. 30 S.
DIRTY DEVIL
UNIT WELL No 4
Note:
Water Well
to be Drilled
on site
Sams Mesa
Spring
Source
of Water
Proposed
Airstrip
PROPOSED
ROAD
JEEP
ROAD
END JEEP
ROAD
SAMS MESA
Landing
Strip
The Pinnacle
WAYNE CO
GARFIELD CO

LOCATION
DIRTY DEVIL UNIT WELL #



UINTAH ENGINEERING & LAND SURVEYING
26 OCT 1972

INTEROFFICE COMMUNICATION

R. G. MYERS

FROM R. G. Myers — Rock Springs, Wyoming (CITY / STATE)

TO B. W. Croft — DATE December 5, 1972

SUBJECT Tentative Plan to Drill
Dirty Devil Unit Well No. 4
Wayne County, Utah

Attached for your information and files is a tentative plan to drill the above-captioned well. This plan was written in accordance with the Geologic Prognosis dated October 16, 1972.

RGM/gm
Attachment
cc: J. T. Simon
L. A. Hale (6)
J. E. Adney
Geology (2)
D. E. Dallas (4)
C. F. Rosene
A. A. Pentila
U.S.G.S.
State
Paul Zubatch
P. E. Files (4)

From: T. M. Colson

Rock Springs, Wyoming

To: R. G. Myers

November 20, 1972

Tentative Plan to Drill
Dirty Devil Unit Well No. 4
Wayne County, Utah

This well will be drilled to total depth by _____ Drilling Company. One work order has been originated for the drilling and completion of this well, namely 21181-2, Drill Dirty Devil Unit Well No. 4, located in the SE 1/4 SE 1/4 Sec. 15, T. 30 S., R. 14 E., Wayne County, Utah. An 8-3/4-inch hole will be drilled to a total depth of 5400 feet and 7-inch O.D. casing run. The well will be drilled to test the Mississippian formation. Ground elevation is at 5465 feet.

1. Drill 13-3/4-inch hole to approximately 560 feet KBM.

2. Run and cement approximately 550 feet of 10-3/4-inch O.D., 32.75-pound, H-40, 8 round thread, ST&C casing. The casing will be cemented with 390 sacks of regular Type "G" cement which represents theoretical requirements plus 100 percent excess cement for 10-3/4-inch O.D. casing in 13-3/4-inch hole with cement returned to surface. Cement will be treated with 1833 pounds of Dowell D43A. Plan on leaving a 10-foot cement plug in the bottom of the casing after displacement is completed. Floating equipment will consist of a Baker guide shoe. The top and bottom of all casing collars will be spot welded in the field and the guide shoe will be spot welded to the shoe joint at the location. The bottom of the surface casing should be landed in such a manner that the top of the 10-inch 3000 psi casing flange will be at ground level. A cellar three feet deep will be required. Prior to cementing, circulate 100 barrels of mud. Capacity of the 10-3/4-inch O.D., 32.75-pound casing is 55 barrels.

3. After a WOC time of 6 hours, remove the landing joint and wash off casing collar. Install a NSCo. Type "B" 10-inch 3000 psi regular duty casing flange tapped for 10-3/4-inch O.D., 8 round thread casing. Install a 2-inch extra heavy nipple,

6-inches long, and a Nordstrom Figure 824 (800 psi WOG, 1600 psi test) valve on one side outlet of the casing flange and a 2-inch extra heavy bull plug in the opposite side. Install a 10-inch 3000 psi double gate hydraulically operated blowout preventer with blind rams in the bottom and 4-1/2-inch rams in the top and finish nippling up. After a WOC time of 12 hours, pressure test surface casing, all preventer rams, and Kelly-cock to 1000 psi for 15 minutes using rig pump and drilling mud. The burst pressure rating for 10-3/4-inch O.D., 32.75-pound, H-40, 8 round thread, ST&C casing is 1820 psi.

4. Drill 8-3/4-inch hole to the total depth of 5400 feet or to such depth as the Geological Department may recommend. A mud de-sander will be used from under the surface casing to total depth to remove all undesirable solids from the mud system and to keep the mud weight to a minimum. A fully manned logging unit will be used from bottom of surface casing to total depth. A Company Geologist will be on location to check cutting samples; 30 foot samples to 700 feet, 10 foot samples from 700 feet to total depth. The mud system will consist of properties adequate to allow the running of drill stem tests. The mud weight should be held as low as practical. Ten drill stem tests are anticipated starting at a depth of approximately 900 feet. Anticipated tops are as follows:

	Approximate Depth (Feet KBM)
Navajo	Surface
Kayenta	210
Wingate	420
Chinle	710
Shinarump	1035
Moenkopi	1120
White Rim	1470
Organ Rock	1995
Cedar Mesa	2085
Honaker Trail	3055
Paradox	3730
Pinkerton Trail	4620
Molas	4975
Mississippian	5125
Total Depth	5400

5. Run a dual induction-laterolog (linear 2-inch and logarithmic 5-inch with RXO/Rt on 5-inch) from total depth to the bottom of the surface pipe and borehole compensated gamma ray sonic caliper log with "F" log from total depth to surface casing. Run a sidewall neutron log over zones of interest.
6. Assuming commercial quantities of gas and/or oil are present as indicated by open hole drill stem tests or log analysis, go into hole with 8-3/4-inch bit and drill pipe to total depth to condition mud prior to running production casing. Pull bit, laying down drill pipe and drill collars.
7. Run 7-inch O.D. casing as outlined in Item No. I, General Information, through the deepest producing zone as indicated by open hole drill stem tests or log analysis. This casing string is designed to withstand a fracture pressure of 5000 psi. A Baker Model "G" circulating differential fillup float collar and guide shoe will be run as floating equipment. Cement casing with 50-50 Pozmix "A" cement. Bring cement top behind the 7-inch O.D. casing above the uppermost producing zone as indicated by drill stem test and log analysis. Circulate 250 barrels of drilling mud prior to beginning cementing operations. Capacity of the 7-inch O.D. casing is approximately 217 barrels. Cement requirements will be based on actual hole size as determined by the caliper portion of the formation density log. Rotate casing while circulating, mixing, and displacing cement. Displace cement with water.
8. Immediately after cementing operations are completed, land the 7-inch O.D. casing with full weight of casing on slips in the 10-inch 3000 psi casing flange and record indicator weight. Install a NSCo. Type B 10-inch 3000 psi by 6-inch 3000 psi tubing spool. Pressure test primary and secondary seals to 2500 psi for 5 minutes. Minimum collapse pressure for 7-inch O.D., 23-pound, N-80, 8 round thread, LT&C casing is 4070 psi. Install a steel plate on the 6-inch 3000 psi tubing spool flange.

9. Release drilling rig and move off location.

10. Move in and rig up a completion rig.

11. Install a 6-inch 3000 psi hydraulically operated double gate preventer with blind rams on bottom and 2-3/8-inch tubing rams on top.

12. After a WOC time of at least 50 hours, rig up Dresser Atlas and run bond log and perforating formation control log from plugged back depth to top of cement behind the 7-inch O.D. casing.

13. After a WOC time of at least 56 hours, pick up and run a 6-1/4-inch bit on 2-3/8-inch O.D., 4.6-pound, J-55 seal lock thread tubing to check plugged back depth.

14. Using Halliburton pump truck and water, pressure test casing and tubing rams to 3500 psi for 15 minutes. The minimum internal yield for 7-inch O.D., 23-pound, N-80 casing is 6340 psi and the wellhead has a working pressure of 3000 psi with a test pressure of 6000 psi. Pull tubing and pressure test casing and blind rams to 3500 psi for 15 minutes. Pull bit, standing tubing in derrick.

15. A tentative plan to complete the well will be issued after results of the above items have been evaluated.

GENERAL INFORMATION

I. The following tubular goods have been assigned to the well.

Description	Approximate Gross Measurement (feet)	Availability
	Surface Casing	
10-3/4-inch O.D., 32.75-pound, H-40, 8 round thread, ST&C casing	580	To be purchased
	Production Casing	
7-inch O.D., 23-pound, N-80, 8 round thread, LT&C casing	5,600	To be purchased
	Production Tubing	
2-3/8-inch O.D., 4.6-pound, J-55, seal lock tubing	5,600	To be purchased

II. All ram type preventers will have hand wheels installed and operative at the time the preventers are installed.

III. Well responsibility - E. G. Mickel

SAMPLE DESCRIPTION

Samples start in Chinle

1020-40 SLSTN, orange-red, calc; little SH, pale grn, purple variegated, calc; trace SS, gr-wh, f-mg; occasional QTZ & CHT granules

1040-60 SLSTN, dull purple, calc

1060-70 SLSTN, orange-red to dull purple, calc

1070-80 SH, purple, var, silty

1080-90 SLSTN, dull purp, shaly; SS, gr-wh. f-mg, sub ang to sub rdd

1090-1100 SH, brn-red, silty, limy; LS, gy, f-xln, intbdd in thin streaks; ltl CAL, wh, some lt orng, v silty

1100-10 SLSTN, orng-red, calc, f strks gy LS intbdd; minor SS, orng, gy-wh, f-cse, ang to rdd, occl rdd gns sh & qtz; ltl SH, med-gr to blk, waxy to silty & sdy, some micaceous

1110-20 SH, purp & dull lavender, calc, sm v silty; much intbdd LS, tan, cream, wh, dse to f-xln

1120-30 SLSTN, orng-red, buff, sli calc to limy; much intbdd LS, ab

1130-45 SH, dull lav, purp, gr-grn, calc, sm silty; strks SLSTN, orng, calc; ltl SH, lt grn, waxy; trace CHT, orng

Shinarump ?

1145-60 SS, varicolored, gr, lav, brn, "dirty" appearance, sm shly, f to cse-g, ang to rdd, poorly sorted, sm qtzt, much has sh or wh clay fill; sm QTZ gns & grans, clr, orng, wh; SH, gr, lav, vcl

1160-80 SS, gr-wh w/sli orng tint, gns mostly frosted but many clr, orng, gr, grn, brn blk, f to cse-g, ang to rdd, poorly sorted, much wh clay in matrix, sli calc, friable, sm qtzt, tight to sli visible porosity, scat light oil stain w/ dim fluor @ 1170-80, selected pieces give weak cut, no gas increase; SH, lav, var, ab; tr PYR

1180-90 SS, lt gr, m to cse-g, ang to rdd, qtzt, fri, sli calc, sm wh clay & gr sh fill; occl QTZ gns, clr; tr PYR

1190-1230	SS, gr-wh, f-mg, ang to sub rdd, sm qtzt, fri, much w/ wh clay fill, sm gr sh & pyr in matrix, pory est fair to good; SH, vcl, sm gr, waxy to silty
1230-40	SH, gr-grn, waxy, sm silty & sdy, occl pyr & blk carbonaceous inclusions
1240-60	SS, grn-gr, f-mg, sub ang to rdd, sm clayey, sm qtzt; ltl SH, gr-grn, waxy, sm slty & sdy; more PYR
Moenkopi	
1260-70	CHT, orng to clr, vitreous, sharp angular; chert exceeds SH, grn-gr, ab; few QTZ gns, frosted, rdd; PYR clusters common
1270-1325	SH, red-brn mottled w/ yel-grn, blocky, firm, sli mic, sm silty, sli to mod calc; ltl CHT, ab; ltl SLSTN, orng-red, v shly, sli calc
1325-30	SLSTN, red-brn, v shly, dolomitic; minor SH, lt gr to grn, waxy, sm silty
1330-40	SH, red-brn, mott, ab
1340-50	SS, lt orng, vf-fg, sub ang to sub rdd, sm qtzt
1350-75	SH, choclate-brn, blky, firm, sm silty & sli mic; ltl CHT, orng
1375-80	SS, lt orng, ab
1380-95	SH, choc-brn, ab; ltl SH, grn, waxy
1395-1400	SLSTN, red-brn, sm mic
1400-10	SLSTN, orng-red, dol shy
1410-15	SS, orng, vfg, calc
1415-25	SLSTN, orng-red, ab
1425-30	SH, grn, waxy
1430-55	SLSTN, orng-red, ab
1455-60	SH, grn, waxy, ab
1460-65	SS, orng-wh, vfg, dol, wh clay fill
1465-85	SH, choc-brn, sm silty, mic; SH, vcl, gr, grn, gr-blue, waxy, soft when wet

1485-1500 SS, orng-wh, orng, vfg, sub rdd to rdd, well sorted, dol, wh clay fill, sli to fair pory

1500-1520 SLSTN, choc-brn, ab, intrgrds w/ SH, choc-brn, silty, sm mic

1520-30 SS, cream, vfg, well sorted, qtzt, fri, v calc, fair pory

1530-40 SH, choc-brn, sm silty, ab

1540-50 SS, dull orng, vfg, silty w/dk mica(?), sm grds to SLSTN, limy

1550-60 SLSTN, orng, calc; ltl SH, grn, gr-grn, gr-blue

1560-75 SS, orng-wh, vfg, sub rdd to rdd, well sorted, calc, much clay fill, est pory poor to fair

Kaibab tongue?

1575-85 DOL, cream to wh, dse to f-xln, sm w/sucrosic appear, oolitic strks & ltl xln pory containing dk-brn heavy O which is fluid in fresh sample & viscous when dry. Est 30% samp stnd, no dry fluor, instant strong streaming cut, negligible gas (See DST #1).

NOTE: A 30-foot down-hole error in pipe tally was discovered at DST #1. All sample depths affected have been corrected.

1585-1620 SH, choc-brn, blky, sm platy, firm, sm silty & sdy, dol

1620-25 SLSTN, brn to orng, dol

1625-40 SH, red-brn to choc-brn, blky, sm platy, silty strks, sm v mic; ltl SH, grn, waxy

1640-50 SLSTN, red-brn, sm v mic, dol, grds to vfg SS below

1650-60 SS, gr to wh, vf-fg, fair sorting, wh clay fill, sm v pyr, sm v dol grdg to sdy, argillaceous DOL. Scat O stn, selected pieces give weak dry fluor & gd cut, no gas, sli to poor pory

1660-70 SS, lt tan, lt gr, vfg, ang to sub rdd, fair sorting, sli to poor pory, samp 80% stnd w/ lk brn, heavy O of 1575-85 (See DST #2); CHT, smoky, translucent, "moss agate" to white, ang to sub rdd; SD, loose, clr to frosted, v csg to gran, sub ang to rdd

White Rim

1670-75	SLSTN, red-brn, calc
1675-90	SH, red-brn, gr, gr-grn, purp, mott, sm silty, blky to platy, firm dol
1690-1700	SS, lt crm, vf-fg, most clay filled & sli dol, scat O stn, no fluor, no gas
1700-40	SH, gr, gr-grn, red-brn, sm vcl, sm silty, ltl w/mica & pyr; SS lt crm, vf-fg, ab, no show
1740-95	SH, grn, gr-grn, sm vcl, sm silty, firm to waxy & soft, ltl pyr & mica
	(Samples 1730-60 badly contam w/ LCM)
1795-1810	SH-SLSTN, red-brn, sh is blky to platy
1810-15	SD, loose, frosted to clr, sub ang to rdd, most is cse & v cse gnd; SS, crm, wh, vf-fg, mostly loose; PYR common
1815-30	SS, mostly loose, wh, vf-fg, sub ang to rdd, sli calc
1830-40	SH, red-brn, ab, sm v silty; PYR com
1840-50	SS, crm, wh, vf-fg, ab
1850-70	SH, red-brn, ab; ltl SH, grn, gr-grn, ab
1870-80	SS, wh, vfg, sm lgr gns, well sorted, v fri, sm w/ ltl clay but gen good pory; ltl PYR
1880-1900	SH, red-brn, blky to platy, sm silty, dol; ltl SH, grn, gr-grn
1900-10	SS, much loose, crm, wh, vf-fg, sub ang to sub rdd, fair to good sorting, sli calc, wh clay (kaolin?) assoc, fair to good pory
1910-20	SH, red-brn, ab
1920-2052	SS, mostly loose, crm, wh, vf-fg, ab, wh clay assoc, pory est gen good to v good
2052-60	(Lost circulation - no usable sample)
2060-85	SS, wh, vf-fg, sm mg, occl cse red gns, fair to good sorting overall w/ good pory

2085-2110 SH, med gr, waxy, bentonitic, sm silty & sdy

2110-25 SH, dull red, silty, firm, much loose SD, wh, ab, v cse gns & grans com

2125-40 SS, wh, vf-fg, ab, much w/v cse rdd to sub rdd incls, sli calc; ltl SH, gr, grn

2140-60 SS, orng-wh, vf-fg, sub ang to rdd, fri, mod to well sorted, sm clay fill, fair to good pory; cse & v cse sd gns com

2160-70 SH, gr, grn, sm waxy, sm silty

2170-2230 SS, orng-wh, sm wh, vf-fg, ltl mg, sub ang to sub rdd, mod to well sorted, variable wh clay fill, fair to good pory, sli calc

2230-50 SH, gr, gr-grn, waxy; SH-SLSTN, brick red to vcl, dol, sm silty & sdy; ltl SS, grn-gr, vf-fg

2250-2300 SS, orng-wh, sm wh, vf-fg w/sm lgr gns, sub ang to sub rdd, fair sorting, mod wh clay fill, sli calc, poor to fair pory, no show; much LCM in samples

Organ Rock

2300-20 SH-SLSTN, red, brn-red, sm pink; ltl SH, gr, gr-grn

2320-55 (Lost circulation - fishing, cementing and re-drilling February 21 to March 29 - no samples)

2355-60 SLSTN, red-brn, ab; much LCM

2360-70 SH(?), v poor sample, indicated to be gr, silty, sdy sh

2370-2400 SS, orng-wh, lt crm, ltl gr-wh, vf-fg w/sm lgr gns, sub ang to sub rdd, lge gns mostly sub rdd to rdd, mod to well sorted, fri, sli dol, ltl wh clay, est pory gen good to v good, no show; ltl SH, gr, silty; tr GYP, wh, soft

Cedar Mesa

2400-65 SS, lt crm, orng-wh, ab, est pory v good, no show; ltl SH, gr, gr-grn, silty; QTZ gns com, clr, vitreous, ang

2465-75 DOL, lt tan to lt gr, f-xln, most v silty & sdy, tite

2475-85 SS, lt gr, gr-brn, vf-fg, sub ang to sub rdd, dol to v dol

2485-95 LS, orng-brn, dse, tite, sdy, silty; ltl SLSTN, gr, shaly; minor SH, gr, silty

2495-2510 SS, lt crm, ltl orng-wh, ab

2510-30 (Lost circulation - cementing, converting to air and re-drilling - no usable samples)

2530-2640 SS, much loose, lt crm, f-mg, sr to r, cse r gns com, fair sorting, v fri, sli dol, xlnt pory; ltl KAO, wh, soft to firm

2640-65 SS, much loose, lt crm, ab, scat orng gns, more uniformly f-mg, mod well sorted, v good to xlnt pory

2665-90 SS, lt crm, ab; much PYR in xls & clusters, most abn @ 2680-90

2690-2700 SS, lt crm w/ orng gns ab; tr PYR

2700-40 SS, loose, v lt orng, f-mg, sa to sr, well sorted, v fri, sli dol, good pory, no show; ltl KAO, wh, sli pyr

2740-50 SH, grn, gr-grn, sm silty

2750-85 SS, loose, v lt orng, ab; ltl SH, gr-grn, grn

2785-2800 DOL, lt tan, dse to f-xln, sdy w/ intbdd sd strks, scat f vugs, scat weak dry fluor, (?) visible stn, selected pieces give weak cut, no gas

2800-15 SH, lt grn, dol, varying silt, mica & sd assoc; ltl KAO & PYR, ab; ltl CAL, wh, cse, xln, sdy

2815-40 SS, loose, lt crm, f-mg, sa to sr, well sorted, v fri, sli dol, good pory, no show; abn PYR, f-cse xln, sm mammilary; ltl KAO, wh

2840-50 SS, loose, v lt orng, most fg, ltl mg & csg, sa to r, well sorted, v fri, sli dol, good pory, no show; ltl PYR & KAO

2850-60 SS, loose, wh, fg, sm mg, ltl vfg & csg, sa to sr, mod well sorted, v fri, sli dol, fair to good, no show; ltl KAO & PYR

2860-2920 SS, loose, lt crm, f-mg, sa to sr, well sorted overall, ltl vfg, sa & csg, sr to r, v fri, sli dol, good pory, no show; ltl PYR & KAO

2920-25 SH, gr-grn, soft, bent, pyr

2925-60 SS, partly loose, lt crm, f-mg, ab

2960-90 SS, loose, lt crm, fg, ltl vfg & mg, sa to sr, well sorted, v fri, dol, xlnt pory, no show; tr only KAO

2990-3080 SS, loose, lt crm, fg, sa to sr, sm mg & sr to r, well sorted overall, v fri, dol, xlnt pory, no show

3080-95 SS, pale lav overall, vfg, sm fg & silt, sa to sr, fairly well sorted, soft, lge dk biotite flakes com, limy, grds to sdy LS

Honaker Trail

3095-3110 LS, pk-wh, mott, soft, clayey, sm sdy, most may be frac fill

3110-30 SS, loose, lt crm, vf-fg, sa to sr, ltl silt & mg, v calc

3130-40 SLSTN, rust-brn, v limy & mic, sdy

3140-60 LS, lt lav, tan, dse to f-xln, fosf; ltl CHT, orng.

3160-80 SLSTN, dull lav, v limy, v mic w/biotite; CHT, orng, abn @ 3160-70

3180-90 SS, lt crm, orng gns com, fg, v calc

3190-3215 LS, dull lav, gr, sm mott, f-xln, mic, sdy

3215-30 LS, wh, chalky to f sucrose; strks wh, fg sd

3230-45 LS, lt to dk ran, gr-wh to med-gr, dse, sm cherty, fus foss

3245-60 SS, wh, fg, v calc, grds to LS, wh, v sdy

3260-80 SS-LS, mott pk-wh, sm mic, intrgrds between v limy ss & v sdy ls

3280-90 SLSTN, rusty-brn, soft, v dol, most v mic, intbdd w/SS, pk-wh, v limy

3290-3300 LS, lav, dse to f-xln, mic, sm silty & sdy; CHT, bright orng w/smoky strks

3300-10 SH, blk, carb, blky to platy, v mic, calc

3310-35 LS, lt tan, lt gr, dse, chty, sm mic, sdy strks

3335-45 SLSTN, red-brn, lav to dk purp, v mic & calc

3345-55 SS, loose, lt crm, f-mg, calc

3355-60 LS, tan, dse, chty

3360-75 SH, gr, silty, sdy, calc

3375-3400 SLSTN, mott dk-wh-red, v mic w/biotite, dol

3400-20 SS, loose, lt crm, fg, well sorted, dol; tr SH, pale grn, bent, mic, dol

3420-55 SLSTN, rust-brn, sm variegated, mic, dol, arg; ltl DOL, lav, brn

3455-65 SS, mott red-brn overall, orng gns in wh limy matrix, f-mg, sm cse cong, calc, mic

3465-80 SLSTN, dk red-brn, v mic, sm sdy, v calc, sm grds to silty LS, dull red-brn, dse; ltl LS, gr-grn, tan

3480-90 SH, gr to red-brn, sm v mic, sm v silty, grds to SLSTN, limy, grds to LS, silty, arg

3490-3500 LS, dk gr, dk tan, dse, arg, mic, silty

3500-10 LS, med to v lt tan, dse, uniform, sm mic, sm cse incls xl rhombs & orng cht; LS, tan-wh, soft, chalky; intbdd sdy strks

3510-20 SLSTN, gr-wh, gr, sm lt orng, soft, v dol, sli mic, most contains vfg sd & sm grds to dol ss; ltl CHT, orng

3520-35 SS, gr, gr-wh, orng-wh, vf-fg, sm lgr gns, ang to sr, poorly sorted, v mic w/lge flakes biotite, sli glauconitic, dol, tite

3535-45 SLSTN, gr, gr-brn, brn, mic w/serecite & biotite, dol

3545-55 SS, mostly loose, gr, orng-wh, ab; ltl SLSTN, gr & brn ab

Upper Hermosa (cf Amstrat @ #1 Dirty Devil)

3555-65 LS, tan, dse w/occl cse xln strks (fracs?), clean & uniform, ltl orng cht assoc; ltl LS, wh, soft, chalky

3565-70 SS, lt gr-grn, vfg to silt, v calc

3570-95 LS, tan, dk tan, dse to f-xln; LS, dk gr, dse to f-xln, occl strks sh, silt & sd w/blk soft film on partings, no fluor, cut or gas; ltl SH, gr-grn, waxy, bent, dol

3590-95	SS, loose, gr-wh, vfg to silt, v calc
3595-3605	LS, tan, gr-tan, dse, most w/scat sd gns & mica
3605-15	SS, lt gr, gr-grn, vf-fg, calc, mic; ltl SH, gr-grn
3615-25	LS, tan, gr-tan, ab
3625-35	SLSTN, gr, brn-gr, v mic, arg; SS, gr-wh, vfg, v mic & calc
3635-45	LS, tan, gr-tan, ab
3645-60	SS, gr, vfg, grds to SLSTN, gr, mod to v mic, calc, dk film on partings; SH, dk gr to blk, mod to v carb, dol, f mic, sm silty
3660-70	DOL, v lt tan, dse, sm f sucrose, sm w/silt & vfg ss
3670-75	LS, lt to dk tan, dse to f-xln, sm silty & sdy, sm f fracs w/wh GYP
3675-85	SS, loose, gr-wh, vf-mg, sa to r; ltl SS, gr, vfg, v limy, qtzt appear, sm v mic
3685-95	LS, dk gr, brn-gr, dse to f-xln; LS, lt tan, tan-wh, dse to chalky, occl f vugs, sm sli silty & sdy, few foss, ltl wh gyp in f seams
3695-3700	SLSTN-SH, gr, gr-grn, sdy, mic, calc
3700-20	SS, loose, wh, fg, sa to sr, sm mg & sr to r, dol; ltl GYP assoc
3720-35	SS-SLSTN, lt gr, gr-wh, v dol; GYP, xln, clr
3735-50	LS, gr, tan-gr, f-xln, silty, sm sdy, sm arg & mic: ltl PYR; tr ANHY, gr-wh
3750-73	LS, gr, f-xln, silty, sm sdy, foss; ltl CHT, gr, brn
3773-77	CHT, blk w/brn tint, blky to splintery
3777-95	LS, tan, gr-tan, dse to f-xln, silty, sdy, foss; abn CHT, brn, gr, smoky
3795-3800	DOL, lt tan, dse, sm v silty
3800-15	LS, gr, brn-gr, f-xln, sli mic, silty, sdy
3815-25	SS, lt gr, vfg to silt, calc, sli mic

3825-30	ANHY, gr, wh, massive to xln; ltl GYP, wh, soft
3830-40	LS, dk gr, brn-gr, f-xln
3840-50	LS, brn-gr, tan, dse to f-xln, sm sdy, silty, mic, sli foss; ltl ANHY & GYP, ab
3850-55	SS, gr-wh, fg, sa to r, calc
3855-70	LS, brn-gr, ab; LS, tan, tan-wh, f-xln
3870-85	LS, gr, dse, silty, sli mic; ltl SLSTN, red
3885-95	SS, gr-wh, f-mg, sa to r; ltl SLSTN-SH, gr, gr-grn, calc, sm waxy, bent
3895-3905	LS, tan, dse, ab
3905-15	SLSTN, gr, gr-grn, mic, calc, sm sdy
3915-30	LS, lt tan, dse, f-xln, sm lgr xls in seams, uniform, sli foss
3930-35	SH, blk, dk brn, carb, blky, calc, soft
3935-45	SS, loose, gr-wh, vf-fg
3945-50	SH, blk, carb, ab
3950-65	LS, brn-gr, dse to f-xln, sm silty & sdy, sm sli mic; ltl ANHY, wh, xln; ltl LS, lt tan, f-xln
3965-75	DOL, gr, tan, dse to f-xln, sm mic, silty & sdy, occl foss
3975-80	SS, loose, gr-wh, fg; ltl SLSTN, dk gr, blk
3980-90	DOL, gr, tan-gr, ab
3990-4010	LS, lt to dk tan, sm tan-wh, dse to f-xln, occl foss
4010-15	SH, dk gr, maroon, tr red, sm silty
4015-20	SS, loose, gr-wh, sm mg, calc
4020-30	DOL, gr, tan-gr, silty, thin strks ANHY
4030-50	LS, gr-tan, dse to f-xln, scat O stn, faint dry fluor, selected pieces give good cut, no gas or drilling break, no visible pory, no gas in blendor cuttings
4050-55	SS, loose, gr-wh, vf-fg, sm mg, sa to r, calc, no show

4055-70 LS, gr-tan, dse, tite, clean, occl foss

4070-80 LS, gr-tan, wh, mott, cse-xln, sm v foss, oolitic, scat brn O stn, ? dry fluor, good cut from stained pieces, no gas, drilled 12-13 min/ft

4080-95 LS, dk gr, brn-gr, dse to f-xln, sm silty

4095-4100 SS, loose, gr-wh, vf-fg, sa to r, ltl mg, sr to r

4100-15 LS, dk gr, brn-gr, ab

4115-20 SS, gr, dk gr, vfg, calc

4120-25 CHT, smoky-wh, transl to op

4125-50 LS, gr-wh, v silty & arg, sm w/abn foss & calcite xls, grds to SLSTN, v calc; ltl SH, blk, dk gr, sm carb, waxy, bent

4150-70 LS, gr-tan, f-xln to dse, sm silty & sdy; ltl LS, gr-wh, silty ab but w/scat O stn, weak fluor & cut, no gas (Samples 4150-70 contam w/uphole rock)

4170-75 SS, loose, gr-wh, orng, f-mg, sa to r, calc

4175-85 LS, blk, dse, sub-lithographic, platy, clean

4185-4200 SS-SLSTN; ss is loose, gr-wh, fg; slstn is lt gr, gr-grn, sm red

4200-10 SH, med gr, sm blk, blky, limy, few silty strks

4210-20 LS, tan gr, dse to f-xln, sli foss, sm silty

4220-25 SH, med gr, ab

4225-45 SS, lt gr, vfg to silt, v arg, dol; strks GYP-ANHY

4245-55 DOL, tan-gr, v sdy & silty, dse

4255-65 SH, var, gr, grn, red, sm silty

4265-70 SS, gr-wh, vf-mg; ltl GYP-ANHY

4270-85 LS, lt to dk tan (dk tan 4270-80), tan-wh, f-xln, sm lgr xl strks, sm silty & sdy strks; ltl SH, grn, gr, var, calc

4285-4300 SS, loose, wh, vf-fg, sa to r, calc

4300-10	LS, lt tan, f-xln, sm lgr xls, foss, ool
4310-30	LS, gr-tan, f-xln, sm lgr xln strks, sm silty & arg; abn CHT, tan, transl to op
4330-50	LS, med to dk tan, dse to f-xln, sm lgr xln strks; CHT 4340-50, brn, op, sm smoky
4350-65	LS, dk tan, f-xln, strks lgr xls; abn CHT, brn
4365-90	LS, dk tan, dse, xln strks, occl foss; CHT, brn; occl bands SH, grn, gr-grn
4390-4405	LS, lt tan, tan-wh, f-m xln, sm foss; ltl CHT, smoky, tan, brn
4405-10	SS, lt tan, gr, vfg, v limy
4410-30	LS, lt to med tan, f-m xln w/cse xln strks, sm sdy & silty; CHT, smoky, gr, tan
4430-50	LS, tan-wh, lt tan, mott, m-cse xln, v foss, ool; CHT, ab
4450-94	LS, tan-wh, mott, soft chalky to xln, foss, sm ool; ltl CHT, ab

Total Depth - 5478.5', fish in hole, no log to bottom

FILE NOTATIONS

Entered in NID File ..... ✓
Location Map Pinned ..... ✓
Card Indexed ..... ✓

Checked by Chief ..... CMB
Approval Letter 12-11-92
Disapproval Letter .....

COMPLETION DATA:

Date Well Completed 5-16-93 ..... Location Inspected .....

Bond released
State or Fee Land .....

WW..... TA.....
GW..... OS..... PA.....

LOGS FILED

Driller's Log..... ✓

Electric Logs (No.) .....

E..... I..... Dual I Lat..... GR-N..... Micro.....

BHC Sonic GR..... Lat..... Mi-L..... Sonic.....

CBLog..... CCLog..... Others.....

December 11, 1972

Mountain Fuel Supply Company
Box 1129
Rock Springs, Wyoming

Re: Dirty Devil Unit #4
Sec. 15, T. 30 S, R. 14 E,
Wayne County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL - Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

This approval terminates within 90 days if the well has not been spudded-in within said period; however, the termination period may be extended upon written request and approval of this Division.

Should water sands (aquifers) be encountered during drilling, Form OGC-8-X, must be completed.

The API number assigned to this well is 43-055-30012. 20303

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CLEON B. FEIGHT
DIRECTOR

CBF:sd
cc: U.S. Geological Survey

Form 9-331
(May 1963)

U ED STATES
DEPARTME. T OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRI ATE*
(Other instructio n re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.
Uta h Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
-

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER Wildcat

7. UNIT AGREEMENT NAME
Dirty Devil Unit

2. NAME OF OPERATOR
Mountain Fuel Supply Company

8. FARM OR LEASE NAME
Unit Well

3. ADDRESS OF OPERATOR
P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.
4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SE SE 15-30S-14E., SLB&M

14. PERMIT NO.
43-055-~~30012~~ 30303

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
GR 5465'

12. COUNTY OR PARISH
Wayne

13. STATE
Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Depth 373', drilling.

Spudded January 21, 1973 at 1:00 A.M.

18. I hereby certify that the foregoing is true and correct

SIGNED E. M. Crofts TITLE Vice President, GAS SUPPLY OPERATIONS DATE Jan. 23, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 43-055-30012 20303

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 1014', ran 10-3/4" surface, now waiting on cement and nippling up.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Croft TITLE Vice President, Gas Supply Operations DATE Jan. 29, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Budget Bureau No. 42-R356.5
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER
UNIT Dirty Devil

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah *County* Wayne *Field* Dirty Devil

The following is a correct report of operations and production (including drilling and producing wells) for the month of JAN 1973, *19*

Agent's address P. O. BOX 11368 *Company* MOUNTAIN FUEL SUPPLY COMPANY

SALT LAKE CITY, UTAH 84111 *Signed* D. Murphy

Phone 328-8315 *Agent's title* CHIEF ACCOUNTANT

SEC. AND ¼ OF ¼	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Dirty Devil Unit #4 - Utah 12311										
SE SE	15	30S	14E	4						Spud January 20, 1973 1,221' Drilling

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329
(January 1950)

16—25766-8 U. S. GOVERNMENT PRINTING OFFICE

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 43-055-~~30012~~ 20303

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 1763', drilling.

DST #1: 1576-1606', White Rim, IO ½ hour, ISI 1 hour, FO 1 hour, FSI 1½ hours, opened with no blow on both openings, no gas, recovered 15' mud. IHP 730, IOFP's 0-0, ISIP missed, FOFP's 8-11, FSIP 165, FHP 730.

DST #2: 1645-1763', White Rim, IO ½ hour, ISI 1½ hours, FO 2 hours, FSI 258 minutes, opened with very weak blow, dead in 6 minutes, no gas, reopened dead, recovered 10' mud. IHP 744, IOFP's 0-8, ISIP 83, FOFP's 8-8, FSIP 69, FHP 716.

18. I hereby certify that the foregoing is true and correct

SIGNED B. H. Crofts TITLE Vice President, Gas Supply Operations DATE Feb. 5, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

February 28, 1973

MEMO FOR FILING

Re: Mountain Fuel Supply Company
Dirty Devil #4
Sec. 15, T. 30 S, R. 14 E,
Wayne County, Utah

On February 22, 1973, the above referred to well site was visited.

Met with Mr. Dale Dallas and Mr. Bob Myers from Rock Springs, Wyoming, at the airport in Green River, Utah. We flew out to the well site and a safety inspection was made of the Brinkerhoff Drilling Company's rig #34. The overall check was considered good, however, it was recommended that more clamps be used on the tong snub lines and that they post their boiler inspection certificate.

CLEON B. FEIGHT
DIRECTOR

CBF:ck

cc: U.S. Geological Survey

Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER
UNIT Dirty Devil

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Wayne Field Dirty Devil

The following is a correct report of operations and production (including drilling and producing wells) for the month of FEB 1973, 19---,

Agent's address P. O. BOX 11368 *Company* MOUNTAIN FUEL SUPPLY COMPANY

SALT LAKE CITY, UTAH 84111 *Signed* J. Murphey

Phone 328-8315 *Agent's title* CHIEF ACCOUNTANT

SEC. AND ¼ OF ¼	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
	Dirty Devil Unit #4 - Utah 12811									
SE SE 15	30S	14E	4							Spud January 20, 1973 2,321' Drilling

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329
(January 1950)

16—25766-8 U. S. GOVERNMENT PRINTING OFFICE

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain JFuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 43-055-~~30012~~ 20303

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Depth 1866' in whipstocked hole, tripping.

Landed 972.70' net, 980.06' gross of 10-3/4"OD, 32.75#, H-40, 8rd thd, ST&C casing at 984.70' KBM and set with 340 sacks of cement.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Crofts TITLE Vice President, Gas Supply Operations DATE March 20, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: -

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 43-055-~~30012~~ 20303

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 2289' in whipstocked hole.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Croft, Jr. TITLE Vice President, Gas Supply Operations DATE March 28, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER
UNIT Dirty Devil

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah *County* Wayne *Field* Dirty Devil

The following is a correct report of operations and production (including drilling and producing wells) for the month of MAR 1973, *19*

Agent's address P. O. BOX 11368 *Company* MOUNTAIN FUEL SUPPLY COMPANY

SALT LAKE CITY, UTAH 84111 *Signed* D Murphy

Phone 328-8315 *Agent's title* CHIEF ACCOUNTANT

SEC. AND ¼ OF ¼	TWP.	RANGE	WELL NO.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Dirty Devil Unit #4 - Utah 12811										
SE SE 15	30S	14E	4							Spud January 20, 1973 2,511' Drilling

NOTE.—There were No runs or sales of oil; No M cu. ft. of gas sold; No runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329
(January 1950)

16—25766-8 U. S. GOVERNMENT PRINTING OFFICE

Form 9-331
(May 1963)

U TED STATES
DEPARTM..T OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TR. CATE*
(Other instructi on re-
verse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: -

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 20303
43-055-~~30012~~

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 2528', lost circulation, set RFC cement plug, now waiting on cement.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Croft pz TITLE Vice President, Gas Supply Operations DATE April 3, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 43-055-~~30012~~ 20303

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 2533', ran 7-5/8" intermediate casing, now waiting on cement.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Croft FZ TITLE Vice President, Gas Supply Operations DATE April 9, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

CL1-51 (REV. 1966)

CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Mountain Fuel Supply Co.
OPERATOR Mountain Fuel Supply Co.
WELL NO. Dirty Devil No. 4
FIELD Wildcat
COUNTY Wayne
STATE Utah

LAB NO. 9999 REPORT NO.
LOCATION Sec. 15-30S-14E
FORMATION
INTERVAL
SAMPLE FROM gas drilling (4/13/73)
DATE April 17, 1973

REMARKS & CONCLUSIONS: Clear water
Sample taken during gas drilling @ 2800 feet.
Not Fit for irrigation. O.K. for occasional use by livestock.

Cations	mg/l	meq/l	Anions	mg/l	meq/l
Sodium	168	7.32	Sulfate	1450	30.16
Potassium	65	1.66	Chloride	310	8.74
Lithium			Carbonate	--	--
Calcium	617	30.79	Bicarbonate	830	13.61
Magnesium	155	12.74	Hydroxide	--	--
Iron	--	--	Hydrogen sulfide	--	--
Total Cations		52.51	Total Anions		52.51

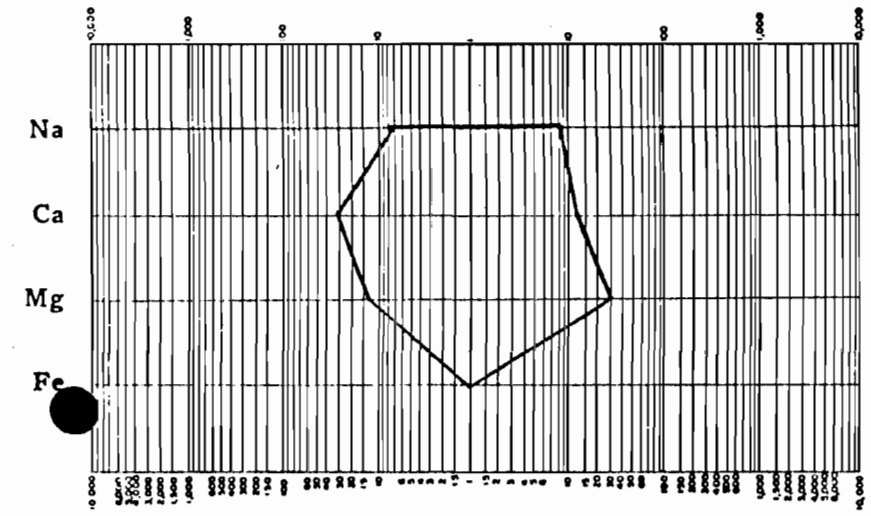
Total dissolved solids, mg/l 3174
NaCl equivalent, mg/l 2388
Observed pH 7.7

Specific resistance @ 68° F.:
Observed 2.50 ohm-meters
Calculated 2.50 ohm-meters

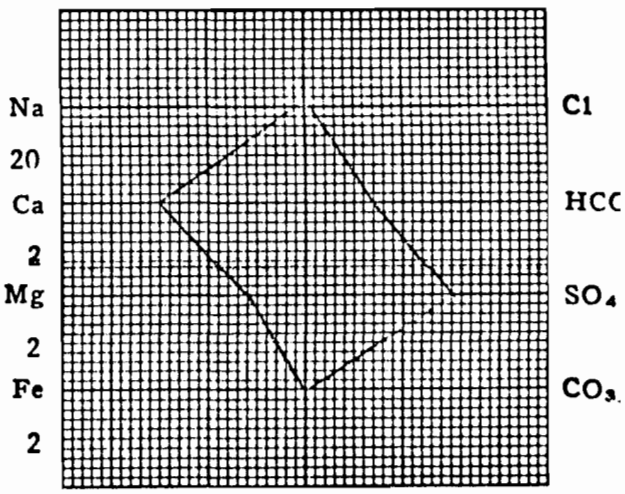
WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC



STANDARD



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l = Milligrams per liter. Meq/l = Milligram equivalents per liter
Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

Form 9-331
(May 1963)

U. ED STATES
DEPARTME... OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRI (Other instruction... verse side) TE* re-

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623' FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 20303 ~~43-055-30012~~

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 3330', drilling cement.

Landed 2519.07' net, 2521.67' gross of 7-5/8"OD, 24#, H-40, 8rd thd, ST&C casing at 2531.07' and set with 150 sacks of cement.

Cemented to shut off water and hole in casing.

18. I hereby certify that the foregoing is true and correct

SIGNED B. W. Crofts TITLE Vice President, Gas Supply Operations DATE April 25, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER
UNIT Dirty Devil

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Utah County Wayne Field Dirty Devil

The following is a correct report of operations and production (including drilling and producing wells) for the month of APR 1973, 19....

Agent's address P. O. BOX 11368 *Company* MOUNTAIN FUEL SUPPLY COMPANY

SALT LAKE CITY, UTAH 84111 *Signed* J. Murphy

Phone 328-8315 *Agent's title* CHIEF ACCOUNTANT

Sec. and ¼ of ¼	Twp.	Range	Well No.	Date Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
	Dirty Devil Unit #4 - Utah 12811									
SE SE 15	30S	14E	4							Spud January 20, 1973 3,827' Drilling

NOTE.—There were NO runs or sales of oil; NO M cu. ft. of gas sold; NO runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329
(January 1950)

16—25766-8 U. S. GOVERNMENT PRINTING OFFICE

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: —

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 623 FSL, 815' FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO.: 20303 43-055-~~30012~~

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) Supplementary history			X
(Other)			☐	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Depth 4494', pipe stuck at 2950'.

18. I hereby certify that the foregoing is true and correct

SIGNED BW Croft TITLE Vice President, Gas Supply Operations DATE May 10, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

ORAL APPROVAL TO ABANDON

Mountain Fuel Supply Co
Well No 4 Dirty Devil unit
9 5/8" 985 circ.
7 5/8" 2531 150 sx
sqzd 200 sx

Tom Colson -
SE¼SE¼ sec 15 30S 14E
U - 12811
Air Drilled

Drld 4494 w/air.

Navajo Sort.

Kayenta	210
Wingate	420
Chinle	710
Shinarump	1035
MoenKopi	1120
White Rim	1470
Organ Rock	1895
Cedar Mesa	2355
Honaker Tr	3130
Paradox	3730

fish bottom 2925 drill collars -
washed over to 2690 cannot circ. thru collars.

cmt under fish were drilling out from 2550 - to 2925 some cmt below collars

180 sx. plug -

back collars off @ 2660 -
100 sx w/ gilsonite will tag to be sure cmt inside 7 5/8 -

50 ft plug top 7 5/8 inside.

100 sx in 7 5/8 - 9 5/8 annulus
then pressure bump place another sqz if will take cmt.

5-14-73 3:30 p.m

J R Daniels

Form 9-331
(May 1963)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: -

1. OIL WELL ☐ GAS WELL ☐ OTHER: Wildcat

7. UNIT AGREEMENT NAME: Dirty Devil Unit

2. NAME OF OPERATOR: Mountain Fuel Supply Company

8. FARM OR LEASE NAME: Unit Well

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

9. WELL NO.: 4

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface: 623' FSL, 815 FEL SE SE

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE SE 15-30S-14E., SLBM

14. PERMIT NO.: 20303
43-055-30012

15. ELEVATIONS (Show whether DF, RT, GR, etc.): KB 5477' GR 5465'

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	X	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

TD 4494', verbal approval was granted on May 15, 1973 during a telephone conversation between Mr. Daniels with the U.S.G.S. and Mr. Colson with Mt. Fuel to plug and abandon the subject well by laying the following plugs:

Plug No. 1: 2488-2088', 100 sacks
Plug No. 2: 1500- 300', 200 sacks
Plug No. 3: 100 sacks between 10-3/4" and 7-5/8" casing
Plug No. 4: 10 sacks into surface pipe.

18. I hereby certify that the foregoing is true and correct

SIGNED BW Croft TITLE Vice President, Gas Supply Operations DATE May 16, 1973

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Form 9-330
(Rev. 5-63)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE (See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

5. LEASE DESIGNATION AND SERIAL NO.: Utah Fed. 12811

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: -

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☒ Other

b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other

7. UNIT AGREEMENT NAME: Dirty Devil Unit

8. FARM OR LEASE NAME: Unit Well

2. NAME OF OPERATOR: Mountain Fuel Supply Company

9. WELL NO.: 4

3. ADDRESS OF OPERATOR: P. O. Box 1129, Rock Springs, Wyoming 82901

10. FIELD AND POOL, OR WILDCAT: Wildcat

4. LOCATION OF WELL (*Report location clearly and in accordance with any State requirements*)*
At surface: 623' FSL, 815' FEL SE SE
At top prod. interval reported below
At total depth

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: SE SE 15-30S-14E., SLB&M

14. PERMIT NO. 43-055-30012 (302303) DATE ISSUED

12. COUNTY OR PARISH: Wayne

13. STATE: Utah

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (*Ready to prod.*)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
1-21-73	5-6-73	5-16-73	KB 5477' GR 5465'	-

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
4494	0		→	0-4494	-

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: D & A

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: Dual Induction Focused, Compensated Densilog

27. WAS WELL CORED: No

28. CASING RECORD (*Report all strings set in well*)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10-3/4	32.75	984.70	13-3/4	840	0
7-5/8	24	2531.07	8-3/4	150	0

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (*Interval, size and number*)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (*Flowing, gas lift, pumping—size and type of pump*)	WELL STATUS (*Producing or shut-in*)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (*Sold, used for fuel, vented, etc.*)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: Logs as above, Well Completion and Well Lithology to be sent at a later date.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED B W Croft TITLE Vice President, Gas Supply Operations DATE May 21, 1973

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: *"Sacks Cement"*: Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Log tops:		
Navajo) Kayenta) Wingate) Chinle)	Undiff.	
Shinarump	1206'	
Moenkopi -	1260'	
White Rim	1670'	
Organ Rock	2310'	
Cedar Mesa	2400'	
Honaker Trail	3130'	
Paradox	3730'	

U.S. GOVERNMENT PRINTING OFFICE: 1963—O-683636

4

Budget Bureau No. 42-R356.5.
Approval expires 12-31-60.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LAND OFFICE Utah
LEASE NUMBER
UNIT Dirty Devil

LESSEE'S MONTHLY REPORT OF OPERATIONS

State UTAH *County* WAYNE *Field* DIRTY DEVIL

The following is a correct report of operations and production (including drilling and producing wells) for the month of MAY 1973, *19*

Agent's address P. O. BOX 11368 SALT LAKE CITY, UTAH 84139 *Company* MOUNTAIN FUEL SUPPLY COMPANY

Signed D Murphy

Phone 328-8315 *Agent's title* CHIEF ACCOUNTANT

Sec. and ¼ of ¼	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	Remarks (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
	Dirty Devil Unit No. 4 - Utah 12811									
SESE 15	30S	14E	4							Spud January 20, 1973 Plug & abandon May 16, 1973 TD 4494' Final Report

Note.—There were No runs or sales of oil; No M cu. ft. of gas sold;

No runs or sales of gasoline during the month. (Write "no" where applicable.)

Note.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Form 9-329
(January 1950)

16—25766-8 U. S. GOVERNMENT PRINTING OFFICE

June 11, 1973

MEMO FOR FILING

Re: Mountain Fuel Supply Company
Dirty Devil #4
Sec. 15, T. 30 S, R. 14 E,
Wayne County, Utah

On June 6, 1973, the above referred to well site was visited.

On a flight from Salt Lake City to Monticello the well site was checked. The mud pits have been filled in and leveled, the location cleaned, and the marker errected. It is recommended that the bond on this well be released.

CLEON B. FEIGHT
DIRECTOR

CBF:ck

cc: U.S. Geological Survey

COMPLETION REPORT

Well: Unit WEll No. 4 Date: July 3, 1973

Area: Dirty Devil Lease No: Utah Fed. 12811

[XX] New Field Wildcat [ ] Development Well [ ] Shallower Pool Test

[ ] New Pool Wildcat [ ] Extension [ ] Deeper Pool Test

Location: 623 feet from South line, 815 feet from East line

SE ¼ SE ¼

Section 15, Township 30 South, Range 14 East

County: Wayne State: Utah

Operator: Mountain Fuel Supply Company

Elevation: KB 5477' Gr 5465' Total Depth: Driller 4494' Log

Drilling Commenced: January 21, 1973 Drilling Completed: May 6, 1973

Rig Released: May 16, 1973 Well Completed: May 16, 1973

Sample Tops: (unadjusted)

Shinarump	1150'
Kaibab	1151'
White Rim	1660'
Organ Rock	2250'
Honaker Trail	3730'

Log Tops:

Shinarump	1206'
Moenkopi	1260'
White Rim	1670'
Organ Rock	2310'
Cedar Mesa	2400'

Sample Cuttings: 10-foot samples 1014 to 4494 feet

Status: Dry and Abandoned

Producing Formation: None

Perforations: None

Stimulation: None

Production: None

Plug Back Depth: None (Surface)

Plugs: 2488-2088 feet, 1500-300 feet; between 10-3/4" and 7-5/8" casing, surface

Hole Size: 13-3/4" surface to 1014 feet; 8-3/4" 984 feet to T.D.

Casing/Tubing: 10-3/4" @ 984.70 w/840 sacks; 7-5/8" @ 2531.07 w/150 sacks

Logging - Mud: Tooke Engineering 1014-4494 feet

Mechanical: Dresser Atlas - DIF 988-2528 feet; BHC Density 1025-1748 feet

Contractor: Brinkerhoff Drilling

Completion Report Prepared by: S. S. Lange

Remarks: Well abandoned with 32-foot sinker bars and 15 5-inch drill collars and bit in the hole. Extreme lost circulation problems and several (6) fishing jobs were encountered during the drilling of this well. Hole was plugged back at 1367 feet and side tracked.

COMPLETION REPORT (cont.)

Well: Unit Well No. 4

Area: Dirty Devil

Cored Intervals (recovery): None

Tabulation of Drill Stem Tests:

No.	Interval	IHP	IFP (min.)	ISIP (min.)	FFP (min.)	FSIP (min.)	FHP	Samples Caught	Remarks
1	1576-1606	729	11-12 (33)	missed (60)	19-21 (60)	176 (90)	718	Mud	Rec. 15' Mud
2	1645-1679	752	8-8 (31)	88 (90)	10-10 (122)	70 (255)	752	Mud	Rec. 10' Mud

MOUNTAIN FUEL SUPPLY COMPANY

#4 DIRTY DEVIL UNIT

SECTION 15, T30S, R14E

WAYNE COUNTY, UTAH

TOOKE ENGINEERING
CONSULTING SERVICE

Parley R. Peterson
Consulting Geologist

June 1973

TABLE OF CONTENTS

	Page
General Information Summary.....	1
Comments.....	2
Chronological Drilling Summary.....	3
Deviation Survey.....	5
Formation Tops.....	7
Drill Stem Tests.....	7
Pit Record.....	8
Sample Description.....	10

MOUNTAIN FUEL SUPPLY COMPANY

#4 DIRTY DEVIL UNIT

SECTION 15, T30S, R14E

WAYNE COUNTY, UTAH

TOOKE ENGINEERING
CONSULTING SERVICE

Parley R. Peterson
Consulting Geologist
Salt Lake City, Utah

June 1973

GENERAL INFORMATION SUMMARY

OPERATOR	Mountain Fuel Supply Company
WELL	#4 Dirty Devil
LOCATION	SE SE (623' NSL, 815' WEL) Section 15, T30S, R1$\frac{1}{4}$E, SLB&M
COUNTY	Wayne
STATE	Utah
ELEVATION	5$\frac{1}{4}$65' G.L. - 5$\frac{1}{4}$79.5' K.B.
CONTRACTOR	Brinkerhoff Drilling Company, Inc. Tool Pushers: Jess Pridgen A. T. Akin Drillers: J. H. Buffington Ron Whetstine L. L. Cunningham L. Doyle J. L. Pitts D. A. Sutton R. Robbins
EQUIPMENT	L. C. Moore 127' mast, $\frac{1}{4}$40,000# gross normal capacity. Emsco GC-350T drawworks powered by two $\frac{1}{4}$65 hp GM Detroit diesel engines. Emsco pumps: Main; Ideal D-500; Standby; Ideal D-300 Air drilling phase contracted by Western Air Drilling Co., Grand Junction, Colo., using a variety of compressors, boosters and injectors powered by GM engines.
COMMENCED	Spud January 21, 1973
CASING	Surface: 10 3/$\frac{1}{4}$" set at 98$\frac{1}{4}$' w/6$\frac{1}{4}$0 sacks; Intermediate, 7 5/8" at 2532'
SAMPLES	Every 10 feet from surface casing to total depth.
DRILLING MEDIUMS	Mud phase: Chemical gel; Air phase, compressed air and formation water conditioned with a foaming agent.
GEOLOGIST	Parley R. Peterson, Salt Lake City, Utah
LOGGER	Terry Eittreim, Tooke Engineering, Casper, Wyoming.

General Information, continued

TESTING	Halliburton
LOGGING	Dresser-Atlas Cement Bond log with Gamma Ray from 1049' to 2476', logged through intermediate casing - no other logs.
CORING	None
TOTAL DEPTH	4494' Driller
COMPLETION	Plugged May 15, 1973, rig released May 16, 1973
STATUS	Plugged and Abandoned

* * * * * * * * * * * * * *

COMMENTS

This remote wildcat was planned to evaluate prospective beds of Triassic to Mississippian age. Extraordinary drilling problems forced abandonment of the well in the lower part of the Paradox leaving untested the remainder of this formation and other important objectives, the underlying Pinkerton Trail and upper Mississippian.

The well was spudded in the Jurassic Navajo formation and surface casing was set at 984 feet to protect a nearby water supply well producing from the Wingate sandstone. Samples began at 1020 feet in the lower Chinle and there are no samples or logs in the Navajo, Kayenta or upper Chinle. The well was drilled with natural mud and chemical-gel mud to 2532 feet and then with aerated water to total depth.

Serious lost circulation was first encountered at 1824 feet in the upper part of the White Rim sandstone and persisted throughout the remainder of the drilling. Twenty-seven days were spent cementing and re-drilling to overcome this problem in the White Rim alone. Circulation was again lost at 2411, 2487 and 2511 feet in the upper part of the Cedar Mesa sandstone. Four cement plugs were run with limited success. Intermediate casing was set at 2532 feet and air drilling was begun. Water flow up to an estimated 400 barrels per hour from the Cedar Mesa greatly complicated air drilling. A foaming agent (Dow Tretolite) was introduced into the system but failed to fully alleviate the difficulty.

CHRONOLOGICAL DRILLING SUMMARY

January 21, 1973	Spud 1:00 A.M.
January 22-28	Drilled surface hole. Ran 10 3/4" surface casing to 984' & set w/640 sacks regular. Geologist not on location.
January 29	Nippling up
January 30	Drilled out
January 31	Drilling @ 1043'
February 1	Drilling @ 1238'
February 2	Drilling @ 1466'
February 3	Testing @ 1580'
February 4	Testing @ 1679'
February 5	Drilling @ 1780'
February 6	Drilling @ 1940'
February 7	Drilling @ 2052'
February 8	Conditioning mud @ 2052'
February 9	Waiting on free-point service @ 2052'
February 10-18	Fishing and cementing - 2052' total depth
February 19	Drilling @ 2122'
February 20	Drilling @ 2248'
February 21	Mixing mud @ 2321'
February 22-March 21	Cementing lost circulation zones, fishing, drilling cement
March 22	Drilling cement @ 1984'
March 23-27	Cementing lost circulation zone and drilling cement

CHRONOLOGICAL DRILLING SUMMARY cont.

March 28	Drilling cement @ 2289'
March 29	Drilling new hole @ 2422'
March 30	Drilling @ 2511'
March 31-April 11	Cementing for lost circulation. Running 7 5/8" casing to 2532'. Repairing damaged crown block. Converting for air drilling
April 12	Drilling with air @ 2548'
April 13	Drilling @ 2807'
April 14	Drilling @ 2872'
April 15	Drilling @ 2935'
April 16	Drilling @ 3180'
April 17-19	Cementing for lost circulation - 3180' total depth
April 20	Drilling @ 3296'
April 21	Drilling packer @ 2400' after cement squeeze. Total depth 3330
April 22	Milling cement and junk @ 2410'
April 23	Waiting on cement
April 24	Drilling cement and junk @ 2560'
April 25	Drilling sandstone and cement @ 2648'
April 26	Drilling @ 2885' in new hole
April 27	Drilling @ 3105' in new hole
April 28	Drilling @ 3285' in new hole
April 29	Drilling @ 3383'
April 30	Drilling @ 3740'

CHRONOLOGICAL DRILLING SUMMARY, continued

May 1	Drilling @ 3827'
May 2	Drilling @ 3972'
May 3	Drilling @ 4121'
May 4	Tripping @ 4205'
May 5	Drilling @ 4338'
May 6	Drilling @ 4494'
May 7	Mixing mud, 4494' total depth
May 8	Waiting on cement
May 9	Drilling cement from 2150'
May 10	Working stuck pipe
May 11	Waiting on fishing tools
May 12	Fishing
May 13	Fishing
May 14	Preparing to plug and abandon
May 15	Plugging and rigging down
May 16	Rig released

* * * * * * * * * * * * * *

DEVIATION SURVEY

Depth	Deviation
100	1/2°
221	3/4
330	1
450	1
575	1
790	2 1/4

Deviation Survey, continued

Depth	Deviation
1185	1°
1278	1
1420	1
1920	2 1/4
2256	6
1848 (Re-drill)	2
1860 "	3
1900 "	3
1930 "	3 1/2
1960 "	4 1/2
1980 "	5
2063 "	6
2094 "	6
2389 (New hole)	4
1884 (Re-drill)	4
1950 "	4
1991 "	5
2120 "	2 1/3
2171 "	3
2221 "	2
2270 "	2
2462 (New hole)	3 1/2
2906	5 3/4

FORMATION TOPS

Formation	Depth	Sub-sea Datum
Navajo	Surface	5478
Kayenta	Not determined - no samples or log	
Wingate	"	
Chinle	"	
Shinarump	1145	4333
Moenkopi	1260	4218
Kaibab tongue (?)	1575	3903
White Rim	1670	3808
Organ Rock	2300	3178
Cedar Mesa	2400	3078
Honaker Trail	3095	2383
Upper Hermosa	3555	1923
Paradox	3825	1653

* * * * * * * * * * * * * * * *

DRILL STEM TESTS

Halliburton
DST#1 - bottom hole test, 1576' - 1606'

Initial open - dead - no blow

	Top Chart	Time	Bottom Chart
IH	730		741
IF	0-8	30	13-27
ISI	(missed)	60	(missed)
FF	8-11	60	27-40
FSI	165	90	189
FH	730		741

Bottom hole temperature, 95°F
Recovery: 12' drilling mud in tool, 3' mud in pipe; 2250cc mud in sampler, no pressure.

Drill Stem Tests, continued

Halliburton
DST #2 - bottom hole test, 1645-1679'

Initial open - weak blow, dead in 6 minutes

	Top Chart	Time	Bottom Chart
IH	744		782
IF	0-8	30	27-27
ISI	83	90	108
FF	8-8	120	27-27
FSI	69	258	81
FH	716		755

Bottom hole temperature, 95°F
Recovery: 10' drilling mud in tool; 2250cc in sampler

BIT RECORD

Bit No.	Make	Size	Type	Depth Out	Footage	Hours	Remarks
1	Security	8 3/4	SJ3	365	365	25 1/2	
2	Smith	8 3/4	DDTJ	390	25	11	
3	Smith	8 3/4	V2HJ	797	407	20	
4	Smith	8 3/4	V2HJ	1014	217	--	
5	Smith	8 3/4	4JS	2052	1038	81 1/2	
6	Smith	8 3/4	V2HJ	2132	80	8 3/4	
	Smith	8 3/4	4JS	2321	--	--	Re-run #5
7	Smith	8 3/4	4JS	--	--	--	Drilling cement-no record
8	Smith	9 7/8	V2HJ	--	--	--	"
9	Smith	9 7/8	V2HJ	--	--	--	"
10	Smith	9 7/8	V2HJ	--	--	--	"
11	HTC	8 3/4	WDRJ	1722	--	--	"
12	Smith	8 3/4	I4	1844	83	8 1/2	Drilling cement
13	HTC	8 3/4	WDR	1866	22	2	"
7	Smith	8 3/4	4JS	1907	41	18 3/4	Re-run #7
14	Smith	8 3/4	DGTH	1975	68	12 1/2	Drilling cement
15	Smith	8 3/4	DGTJ	1991	16	5	" "
16	HTC	8 3/4	WJR	2008	7	7 1/4	" "
17	Smith	8 3/4	V2HJ	2018	10	4 1/4	" "
18	Smith	8 3/4	V1HJ	2044	26	8	" "
19	Smith	8 3/4	T2HJ	2063	19	6 3/4	" "
20	Smith	8 3/4	V2HJ	--	--	--	" "
21	Smith	8 3/4	T2HJ	2128	40	6	" "
22	Smith	8 3/4	I4HJ	2170	58	--	" "
23	Smith	8 3/4	V1HJ	2221	51	--	" "

BIT RECORD (continued)

Bit No.	Make	Size	Type	Depth Out	Footage	Hours	Remarks
24	Smith	8 3/4	V1HJ	2289	68	8	Drilling cement
25	Smith	8 3/4	V1HJ	2333	44	3 3/4	New hole
7	Smith	8 3/4	4JS	2511	178	24 1/2	
26	Smith	8 3/4	V2HJ	--	--	--	Drilling and reaming cement
27	Smith	9 7/8	V2HJ	--	--	--	
28	(No record)						"
29	(No record)						"
30	Smith	6 3/4	L4HJ	2574	64	2	New hole - air drilling
31	Smith	6 3/4	R4SS	2816	242	19	
32	Smith	6 3/4	V2HJ	2851	35	6 1/4	
33	Smith	6 3/4	L4HJ	2935	84	15 1/2	
34	Smith	6 3/4	4JS	3180	245		
35	(No record)						
36	(No record)						
37	Smith	6 3/4	DGS	2555	106	2 1/2	Drilling, reaming cement
38	Smith	6 3/4	D2H	2563	3	2	"
39	(No record)						
40	(No record)						
41	(No record)						
42	Smith	6 3/4	4JS	2906	888	76 3/4	
43	Smith	6 3/4	4JS	3792	--	--	New hole - air drilling
44	Smith	6 3/4	4JS	4157	365		
45	Smith	6 3/4	L4HJ	4209	52	8 1/2	
46	Smith	6 3/4	5JS	4494	285	36	

SAMPLE DESCRIPTION

Samples start in Chinle

1020-40 SLSTN, orange-red, calc; little SH, pale grn, purple variegated, calc; trace SS, gr-wh, f-mg; occasional QTZ & CHT granules

1040-60 SLSTN, dull purple, calc

1060-70 SLSTN, orange-red to dull purple, calc

1070-80 SH, purple, var, silty

1080-90 SLSTN, dull purp, shaly; SS, gr-wh, f-mg, sub ang to sub rdd

1090-1100 SH, brn-red, silty, limy; LS, gy, f-xln, intbdd in thin streaks; ltl CAL, wh, some lt orng, v silty

1100-10 SLSTN, orng-red, calc, f strks gy LS intbdd; minor SS, orng, gy-wh, f-cse, ang to rdd, occl rdd gns sh & qtz; lti SH, med-gr to blk, waxy to silty & sdy, some micaceous

1110-20 SH, purp & dull lavender, calc, sm v silty; much intbdd LS, tan, cream, wh, dse to f-xln

1120-30 SLSTN, orng-red, buff, sli calc to limy; much intbdd LS, ab

1130-45 SH, dull lav, purp, gr-grn, calc, sm silty; strks SLSTN, orng, calc; ltl SH, lt grn, waxy; trace CHT, orng

Shinarump ?

1145-60 SS, varicolored, gr, lav, brn, "dirty" appearance, sm shly, f to cse-g, ang to rdd, poorly sorted, sm qtzt, much has sh or wh clay fill; sm QTZ gns & grans, clr, orng, wh; SH, gr, lav, vcl

1160-80 SS, gr-wh w/sli orng tint, gns mostly frosted but many clr, orng, gr, grn, brn blk, f to cse-g, ang to rdd, poorly sorted, much wh clay in matrix, sli calc, friable, sm qtzt, tight to sli visible porosity, scat light oil stain w/ dim fluor @ 1170-80, selected pieces give weak cut, no gas increase: SH, lav, var, ab; tr PYR

1180-90 SS, lt gr, m to cse-g, ang to rdd, qtzt, fri, sli calc, sm wh clay & gr sh fill; occl QTZ gns, clr; tr PYR

1190-1230	SS, gr-wh, f-mg, ang to sub rdd, sm qtzt, fri, much w/ wh clay fill, sm gr sh & pyr in matrix, pory est fair to good; SH, vcl, sm gr, waxy to silty
1230-40	SH, gr-grn, waxy, sm silty & sdy, occl pyr & blk carbonaceous inclusions
1240-60	SS, grn-gr, f-mg, sub ang to rdd, sm clayey, sm qtzt; ltl SH, gr-grn, waxy, sm slty & sdy: more PYR
Moenkopi	
1260-70	CHT, orng to clr, vitreous, sharp angular; chert exceeds SH, grn-gr, ab; few QTZ gns, frosted, rdd; PYR clusters common
1270-1325	SH, red-brn mottled w/ yel-grn, blocky, firm, sli mic, sm silty, sli to mod calc; ltl CHT, ab; ltl SLSTN, orng-red, v shly, sli calc
1325-30	SLSTN, red-brn, v shly, dolomitic; minor SH, lt gr to grn, waxy, sm silty
1330-40	SH, red-brn, mott, ab
1340-50	SS, lt orng, vf-fg, sub ang to sub rdd, sm qtzt
1350-75	SH, choclate-brn, blky, firm, sm silty & sli mic; ltl CHT, orng
1375-80	SS, lt orng, ab
1380-95	SH, choc-brn, ab; ltl SH, grn, waxy
1395-1400	SLSTN, red-brn, sm mic
1400-10	SLSTN, orng-red, dol shy
1410-15	SS, orng, vfg, calc
1415-25	SLSTN, orng-red, ab
1425-30	SH, grn, waxy
1430-55	SLSTN, orng-red, ab
1455-60	SH, grn, waxy, ab
1460-65	SS, orng-wh, vfg, dol, wh clay fill
1465-85	SH, choc-brn, sm silty, mic; SH, vcl, gr, grn, gr-blue, waxy, soft when wet

1485-1500 SS, orng-wh, orng, vfg, sub rdd to rdd, well sorted, dol, wh clay fill, sli to fair pory

1500-1520 SLSTN, choc-brn, ab, intrgrds w/ SH, choc-brn, silty, sm mic

1520-30 SS, cream, vfg, well sorted, qtzt, fri, v calc, fair pory

1530-40 SH, choc-brn, sm silty, ab

1540-50 SS, dull orng, vfg, silty w/dk mica(?), sm grds to SLSTN, limy

1550-60 SLSTN, orng, calc; ltl SH, grn, gr-grn, gr-blue

1560-75 SS, orng-wh, vfg, sub rdd to rdd, well sorted, calc, much clay fill, est pory poor to fair

Kaibab tongue?

1575-85 DOL, cream to wh, dse to f-xln, sm w/sucrosic appear, oolitic strks & ltl xln pory containing dk-brn heavy O which is fluid in fresh sample & viscous when dry. Est 30% samp stnd, no dry fluor, instant strong streaming cut, negligible gas (See DST #1).

NOTE: A 30-foot down-hole error in pipe tally was discovered at DST #1. All sample depths affected have been corrected.

1585-1620 SH, choc-brn, blky, sm platy, firm, sm silty & sdy, dol

1620-25 SLSTN, brn to orng, dol

1625-40 SH, red-brn to choc-brn, blky, sm platy, silty strks, sm v mic; ltl SH, grn, waxy

1640-50 SLSTN, red-brn, sm v mic, dol, grds to vfg SS below

1650-60 SS, gr to wh, vf-fg, fair sorting, wh clay fill, sm v pyr, sm v dol grdg to sdy, argillaceous DOL. Scat O stn, selected pieces give weak dry fluor & gd cut, no gas, sli to poor pory

1660-70 SS, lt tan, lt gr, vfg, ang to sub rdd, fair sorting, sli to poor pory, samp 80% stnd w/dk brn, heavy O cf 1575-85 (See DST #2); CHT, smoky, translucent, "moss agate" to white, ang to sub rdd; SD, loose, clr to frosted, v csg to gran, sub ang to rdd

White Rim

1670-75	SLSTN, red-brn, calc
1675-90	SH, red-brn, gr, gr-grn, purp, mott, sm silty, blky to platy, firm dol
1690-1700	SS, lt crm, vf-fg, most clay filled & sli dol, scat 0 stn, no fluor, no gas
1700-40	SH, gr, gr-grn, red-brn, sm vcl, sm silty, ltl w/mica & pyr; SS lt crm, vf-fg, ab, no show
1740-95	SH, grn, gr-grn, sm vcl, sm silty, firm to waxy & soft, ltl pyr & mica (Samples 1730-60 badly contam w/ LCM)
1795-1810	SH-SLSTN, red-brn, sh is blky to platy
1810-15	SD, loose, frosted to clr, sub ang to rdd, most is cse & v cse gnd; SS, crm, wh, vf-fg, mostly loose; PYR common
1815-30	SS, mostly loose, wh, vf-fg, sub ang to rdd, sli calc
1830-40	SH, red-brn, ab, sm v silty; PYR com
1840-50	SS, crm, wh, vf-fg, ab
1850-70	SH, red-brn, ab; ltl SH, grn, gr-grn, ab
1870-80	SS, wh, vfg, sm lgr gns, well sorted, v fri, sm w/ ltl clay but gen good pory; ltl PYR
1880-1900	SH, red-brn, blky to platy, sm silty, dol; ltl SH, grn, gr-grn
1900-10	SS, much loose, crm, wh, vf-fg, sub ang to sub rdd, fair to good sorting, sli calc, wh clay (kaolin?) assoc, fair to good pory
1910-20	SH, red-brn, ab
1920-2052	SS, mostly loose, crm, wh, vf-fg, ab, wh clay assoc, pory est gen good to v good
2052-60	(Lost circulation - no usable sample)
2060-85	SS, wh, vf-fg, sm mg, occl cse red gns, fair to good sorting overall w/ good pory

2085-2110 SH, med gr, waxy, bentonitic, sm silty & sdy

2110-25 SH, dull red, silty, firm, much loose SD, wh, ab, v cse gns & grans com

2125-40 SS, wh, vf-fg, ab, much w/v cse rdd to sub rdd incls, sli calc; ltl SH, gr, grn

2140-60 SS, orng-wh, vf-fg, sub ang to rdd, fri, mod to well sorted, sm clay fill, fair to good pory; cse & v cse sd gns com

2160-70 SH, gr, grn, sm waxy, sm silty

2170-2230 SS, orng-wh, sm wh, vf-fg, ltl mg, sub ang to sub rdd, mod to well sorted, variable wh clay fill, fair to good pory, sli calc

2230-50 SH, gr, gr-grn, waxy; SH-SLSTN, brick red to vcl, dol, sm silty & sdy; ltl SS, grn-gr, vf-fg

2250-2300 SS, orng-wh, sm wh, vf-fg w/sm lgr gns, sub ang to sub rdd, fair sorting, mod wh clay fill, sli calc, poor to fair pory, no show; much LCM in samples

Organ Rock

2300-20 SH-SLSTN, red, brn-red, sm pink; ltl SH, gr, gr-grn

2320-55 (Lost circulation - fishing, cementing and re-drilling February 21 to March 29 - no samples)

2355-60 SLSTN, red-brn, ab; much LCM

2360-70 SH(?), v poor sample, indicated to be gr, silty, sdy sh

2370-2400 SS, orng-wh, lt crm, ltl gr-wh, vf-fg w/sm lgr gns, sub ang to sub rdd, lge gns mostly sub rdd to rdd, mod to well sorted, fri, sli dol, ltl wh clay, est pory gen good to v good, no show; ltl SH, gr, silty; tr GYP, wh, soft

Cedar Mesa

2400-65 SS, lt crm, orng-wh, ab, est pory v good, no show; ltl SH, gr, gr-grn, silty; QTZ gns com, clr, vitreous, ang

2465-75 DOL, lt tan to lt gr, f-xln, most v silty & sdy, tite

2475-85 SS, lt gr, gr-brn, vf-fg, sub ang to sub rdd, dol to v dol

2485-95 LS, orng-brn, dse, tite, sdy, silty; ltl SLSTN, gr, shaly; minor SH, gr, silty

2495-2510 SS, lt crm, ltl orng-wh, ab

2510-30 (Lost circulation - cementing, converting to air and re-drilling - no usable samples)

2530-2640 SS, much loose, lt crm, f-mg, sr to r, cse r gns com, fair sorting, v fri, sli dol, xlnt pory; ltl KAO, wh, soft to firm

2640-65 SS, much loose, lt crm, ab, scat orng gns, more uniformly f-mg, mod well sorted, v good to xlnt pory

2665-90 SS, lt crm, ab; much PYR in xls & clusters, most abn @ 2680-90

2690-2700 SS, lt crm w/ orng gns ab; tr PYR

2700-40 SS, loose, v lt orng, f-mg, sa to sr, well sorted, v fri, sli dol, good pory, no show; ltl KAO, wh, sli pyr

2740-50 SH, grn, gr-grn, sm silty

2750-85 SS, loose, v lt orng, ab; ltl SH, gr-grn, grn

2785-2800 DOL, lt tan, dse to f-xln, sdy w/ intbdd sd strks, scat f vugs, scat weak dry fluor, (?) visible stn, selected pieces give weak cut, no gas

2800-15 SH, lt grn, dol, varying silt, mica & sd assoc; ltl KAO & PYR, ab; ltl CAL, wh, cse, xln, sdy

2815-40 SS, loose, lt crm, f-mg, sa to sr, well sorted, v fri, sli dol, good pory, no show; abn PYR, f-cse xln, sm mammilary; ltl KAO, wh

2840-50 SS, loose, v lt orng, most fg, ltl mg & csg, sa to r, well sorted, v fri, sli dol, good pory, no show; ltl PYR & KAO

2850-60 SS, loose, wh, fg, sm mg, ltl vfg & csg, sa to sr, mod well sorted, v fri, sli dol, fair to good, no show; ltl KAO & PYR

2860-2920 SS, loose, lt crm, f-mg, sa to sr, well sorted overall, ltl vfg, sa & csg, sr to r, v fri, sli dol, good pory, no show; ltl PYR & KAO

2920-25 SH, gr-grn, soft, bent, pyr

2925-60 SS, partly loose, lt crm, f-mg, ab

2960-90 SS, loose, lt crm, fg, ltl vfg & mg, sa to sr, well sorted, v fri, dol, xlnt pory, no show; tr only KAO

2990-3080 SS, loose, lt crm, fg, sa to sr, sm mg & sr to r, well sorted overall, v fri, dol, xlnt pory, no show

3080-95 SS, pale lav overall, vfg, sm fg & silt, sa to sr, fairly well sorted, soft, lge dk biotite flakes com, limy, grds to sdy LS

Honaker Trail

3095-3110 LS, pk-wh, mott, soft, clayey, sm sdy, most may be frac fill

3110-30 SS, loose, lt crm, vf-fg, sa to sr, ltl silt & mg, v calc

3130-40 SLSTN, rust-brn, v limy & mic, sdy

3140-60 LS, lt lav, tan, dse to f-xln, fosf; ltl CHT, orng.

3160-80 SLSTN, dull lav, v limy, v mic w/biotite; CHT, orng, abn @ 3160-70

3180-90 SS, lt crm, orng gns com, fg, v calc

3190-3215 LS, dull lav, gr, sm mott, f-xln, mic, sdy

3215-30 LS, wh, chalky to f sucrose; strks wh, fg sd

3230-45 LS, lt to dk ran, gr-wh to med-gr, dse, sm cherty, fus foss

3245-60 SS, wh, fg, v calc, grds to LS, wh, v sdy

3260-80 SS-LS, mott pk-wh, sm mic, intrgrds between v limy ss & v sdy ls

3280-90 SLSTN, rusty-brn, soft, v dol, most v mic, intbdd w/SS, pk-wh, v limy

3290-3300 LS, lav, dse to f-xln, mic, sm silty & sdy; CHT, bright orng w/smoky strks

3300-10 SH, blk, carb, blky to platy, v mic, calc

3310-35 LS, lt tan, lt gr, dse, chty, sm mic, sdy strks

3335-45 SLSTN, red-brn, lav to dk purp, v mic & calc

3345-55 SS, loose, lt crm, f-mg, calc

3355-60 LS, tan, dse, chty

3360-75 SH, gr, silty, sdy, calc

3375-3400 SLSTN, mott pk-wh-red, v mic w/biotite, dol

3400-20 SS, loose, lt crm, fg, well sorted, dol; tr SH, pale grn, bent, mic, dol

3420-55 SLSTN, rust-brn, sm variegated, mic, dol, arg; ltl DOL, lav, brn

3455-65 SS, mott red-brn overall, orng gns in wh limy matrix, f-mg, sm cse cong, calc, mic

3465-80 SLSTN, dk red-brn, v mic, sm sdy, v calc, sm grds to silty LS, dull red-brn, dse; ltl LS, gr-grn, tan

3480-90 SH, gr to red-brn, sm v mic, sm v silty, grds to SLSTN, limy, grds to LS, silty, arg

3490-3500 LS, dk gr, dk tan, dse, arg, mic, silty

3500-10 LS, med to v lt tan, dse, uniform, sm mic, sm cse incls xl rhombs & orng cht; LS, tan-wh, soft, chalky; intbdd sdy strks

3510-20 SLSTN, gr-wh, gr, sm lt orng, soft, v dol, sli mic, most contains vfg sd & sm grds to dol ss; ltl CHT, orng

3520-35 SS, gr, gr-wh, orng-wh, vf-fg, sm lgr gns, ang to sr, poorly sorted, v mic w/lge flakes biotite, sli glauconitic, dol, tite

3535-45 SLSTN, gr, gr-brn, brn, mic w/serecite & biotite, dol

3545-55 SS, mostly loose, gr, orng-wh, ab; ltl SLSTN, gr & brn ab

Upper Hermosa (cf Amstrat @ #1 Dirty Devil)

3555-65 LS, tan, dse w/occl cse xln strks (fracs?), clean & uniform, ltl orng cht assoc; ltl LS, wh, soft, chalky

3565-70 SS, lt gr-grn, vfg to silt, v calc

3570-95 LS, tan, dk tan, dse to f-xln; LS, dk gr, dse to f-xln, occl strks sh, silt & sd w/blk soft film on partings, no fluor, cut or gas; ltl SH, gr-grn, waxy, bent, dol

3590-95 SS, loose, gr-wh, vfg to silt, v calc

3595-3605 LS, tan, gr-tan, dse, most w/scat sd gns & mica

3605-15 SS, lt gr, gr-grn, vf-fg, calc, mic; ltl SH, gr-grn

3615-25 LS, tan, gr-tan, ab

3625-35 SLSTN, gr, brn-gr, v mic, arg; SS, gr-wh, vfg, v mic & calc

3635-45 LS, tan, gr-tan, ab

3645-60 SS, gr, vfg, grds to SLSTN, gr, mod to v mic, calc, dk film on partings; SH, dk gr to blk, mod to v carb, dol, f mic, sm silty

3660-70 DOL, v lt tan, dse, sm f sucrose, sm w/silt & vfg ss

3670-75 LS, lt to dk tan, dse to f-xln, sm silty & sdy, sm f fracs w/wh GYP

3675-85 SS, loose, gr-wh, vf-mg, sa to r; ltl SS, gr, vfg, v limy, qtzt appear, sm v mic

3685-95 LS, dk gr, brn-gr, dse to f-xln; LS, lt tan, tan-wh, dse to chalky, occl f vugs, sm sli silty & sdy, few foss, ltl wh gyp in f seams

3695-3700 SLSTN-SH, gr, gr-grn, sdy, mic, calc

3700-20 SS, loose, wh, fg, sa to sr, sm mg & sr to r, dol; ltl GYP assoc

3720-35 SS-SLSTN, lt gr, gr-wh, v dol; GYP, xln, clr

3735-50 LS, gr, tan-gr, f-xln, silty, sm sdy, sm arg & mic: ltl PYR; tr ANHY, gr-wh

3750-73 LS, gr, f-xln, silty; sm sdy, foss; ltl CHT, gr, brn

3773-77 CHT, blk w/brn tint, blky to splintery

3777-95 LS, tan, gr-tan, dse to f-xln, silty, sdy, foss; abn CHT, brn, gr, smoky

3795-3800 DOL, lt tan, dse, sm v silty

3800-15 LS, gr, brn-gr, f-xln, sli mic, silty, sdy

3815-25 SS, lt gr, vfg to silt, calc, sli mic

3825-30	ANHY, gr, wh, massive to xln; ltl GYP, wh, soft
3830-40	LS, dk gr, brn-gr, f-xln
3840-50	LS, brn-gr, tan, dse to f-xln, sm sdy, silty, mic, sli foss; ltl ANHY & GYP, ab
3850-55	SS, gr-wh, fg, sa to r, calc
3855-70	LS, brn-gr, ab; LS, tan, tan-wh, f-xln
3870-85	LS, gr, dse, silty, sli mic; ltl SLSTN, red
3885-95	SS, gr-wh, f-mg, sa to r; ltl SLSTN-SH, gr, gr-grn, calc, sm waxy, bent
3895-3905	LS, tan, dse, ab
3905-15	SLSTN, gr, gr-grn, mic, calc, sm sdy
3915-30	LS, lt tan, dse, f-xln, sm lgr xls in seams, uniform, sli foss
3930-35	SH, blk, dk brn, carb, blky, calc, soft
3935-45	SS, loose, gr-wh, vf-fg
3945-50	SH, blk, carb, ab
3950-65	LS, brn-gr, dse to f-xln, sm silty & sdy, sm sli mic; ltl ANHY, wh, xln; ltl LS, lt tan, f-xln
3965-75	DOL, gr, tan, dse to f-xln, sm mic, silty & sdy, occl foss
3975-80	SS, loose, gr-wh, fg; ltl SLSTN, dk gr, blk
3980-90	DOL, gr, tan-gr, ab
3990-4010	LS, lt to dk tan, sm tan-wh, dse to f-xln, occl foss
4010-15	SH, dk gr, maroon, tr red, sm silty
4015-20	SS, loose, gr-wh, sm mg, calc
4020-30	DOL, gr, tan-gr, silty, thin strks ANHY
4030-50	LS, gr-tan, dse to f-xln, scat 0 stn, faint dry fluor, selected pieces give good cut, no gas or drilling break, no visible pory, no gas in blendor cuttings
4050-55	SS, loose, gr-wh, vf-fg, sm mg, sa to r, calc, no show

4055-70 LS, gr-tan, dse, tite, clean, occl foss

4070-80 LS, gr-tan, wh, mott, cse-xln, sm v foss, oolitic, scat brn O stn, ? dry fluor, good cut from stained pieces, no gas, drilled 12-13 min/ft

4080-95 LS, dk gr, brn-gr, dse to f-xln, sm silty

4095-4100 SS, loose, gr-wh, vf-fg, sa to r, ltl mg, sr to r

4100-15 LS, dk gr, brn-gr, ab

4115-20 SS, gr, dk gr, vfg, calc

4120-25 CHT, smoky-wh, transl to op

4125-50 LS, gr-wh, v silty & arg, sm w/abn foss & calcite xls, grds to SLSTN, v calc; ltl SH, blk, dk gr, sm carb, waxy, bent

4150-70 LS, gr-tan, f-xln to dse, sm silty & sdy; ltl LS, gr-wh, silty ab but w/scat O stn, weak fluor & cut, no gas (Samples 4150-70 contam w/uphole rock)

4170-75 SS, loose, gr-wh, orng, f-mg, sa to r, calc

4175-85 LS, blk, dse, sub-lithographic, platy, clean

4185-4200 SS-SLSTN; ss is loose, gr-wh, fg; slstn is lt gr, gr-grn, sm red

4200-10 SH, med gr, sm blk, blky, limy, few silty strks

4210-20 LS, tan gr, dse to f-xln, sli foss, sm silty

4220-25 SH, med gr, ab

4225-45 SS, lt gr, vfg to silt, v arg, dol; strks GYP-ANHY

4245-55 DOL, tan-gr, v sdy & silty, dse

4255-65 SH, var, gr, grn, red, sm silty

4265-70 SS, gr-wh, vf-mg; ltl GYP-ANHY

4270-85 LS, lt to dk tan (dk tan 4270-80), tan-wh, f-xln, sm lgr xl strks, sm silty & sdy strks; ltl SH, grn, gr, var, calc

4285-4300 SS, loose, wh, vf-fg, sa to r, calc

4300-10 LS, lt tan, f-xln, sm lgr xls, foss, ool

4310-30 LS, gr-tan, f-xln, sm lgr xln strks, sm silty & arg; abn CHT, tan, transl to op

4330-50 LS, med to dk tan, dse to f-xln, sm lgr xln strks; CHT 4340-50, brn, op, sm smoky

4350-65 LS, dk tan, f-xln, strks lgr xls: abn CHT, brn

4365-90 LS, dk tan, dse, xln strks, occl foss; CHT, brn; occl bands SH, grn, gr-grn

4390-4405 LS, lt tan, tan-wh, f-m xln, sm foss; ltl CHT, smoky, tan, brn

4405-10 SS, lt tan, gr, vfg, v limy

4410-30 LS, lt to med tan, f-m xln w/cse xln strks, sm sdy & silty; CHT, smoky, gr, tan

4430-50 LS, tan-wh, lt tan, mott, m-cse xln, v foss, ool; CHT, ab

4450-94 LS, tan-wh, mott, soft chalky to xln, foss, sm ool; ltl CHT, ab

Total Depth - 5478.5', fish in hole, no log to bottom